

ULYANOV, G. K.

USSR/ Physics - sound in magnet field

Card : 1/1

Authors : Myasnikov, L. L., and Ulyanov, G. K.

Title : Magnetic dispersion of sound during longitudinal oscillations

Periodical : Dokl. AN SSSR, 96, Ed. 4, 729 - 731, June 1954

Abstract : Magnetic dispersion of sound in dia- and para-magnetic metal discs and rods, during longitudinal oscillations, was observed. This dispersion was studied and a theory propounded. According to the theory, the main cause of the observed dispersion is due to the skin effect. The observed dispersion was slightly less than the theoretical. Two references. Graphs

Institution : The Leningrad Ship-Building Institute

Presented by: Academician, A. N. Terenin, March 6, 1954

ULYANOV, G. K.

USSR/Physics

Card : 1/1

Authors : Myasnikov, L. L., and Ulyanov, G. K.

Title : Magneto-acoustic effect in para- and diamagnetic metals

Periodical : Dokl. AN SSSR, 96, Ed. 5, 967 - 969, June 1954

Abstract : The article deals with an acoustical magnetic effect observed during magnetic dispersion studies in para- and diamagnetic metals. The effect consists of an increase of phase velocity of sound produced by metal torsional plates put into a constant magnetic field accompanied also by an increase in the sound absorption. Diagrams.

Institution : Ship Construction Institute, Leningrad

Presented by: Academician, A. N. Terenin, March 6, 1954

ULYANOV, G.

"Cosmic Eavesdropping" (Wroclaw, 20 June 1958.

SIowo Polskie

JPRS/DC-274 9 Sep 58.

VINOGRADOV, K. N. and ULYANOV, G. K.

"Measurement of Phase Velocity and Attenuation of Surface Waves in Solids."

paper presented at the 4th All-Union Conf. on Acoustics, Moscow, 26 May - 4 Jun 58.

SOV/120-58-5-27/32

AUTHORS: Ul'yanov, G. K. and Vinogradov, K. N.

TITLE: Measurement of Inhomogeneous Permanent Magnetic Fields  
(Izmereniye neodnorodnykh postoyannykh magnitnykh poley)

PERIODICAL: Priory i tekhnika eksperimenta, 1958, Nr 5, pp 102-104  
(USSR)

ABSTRACT: The investigation was conducted with a series of permanent 'horseshoe' magnets, all made of magnetic alloy ANK O-4. The 'horseshoe' geometry was achieved as follows: from a cylinder of ANK O-4, diameter 60 mm, thickness 30 mm, a 36 mm diameter cylinder was removed eccentrically, so that its circumference was within a few mm of the circumference of the outer cylinder at their closest approach. A slice of the alloy separating the two circumferences in the closest approach region was then removed and the walls on either side of the gap were magnetised with mutually opposite polarity to make the pole-pieces of the 'horseshoe'. The only difference in the geometry of the various permanent magnets lay in the nature of the gap between the pole-pieces. In every case this gap was bounded by two planes parallel to the cylinder axes, but the angle  $2\alpha$  between these planes assumed the respective values:  $0^\circ$ ,  $30^\circ$ ,  $40^\circ$  and  $50^\circ$  in the four cases investigated. The set-up for measuring the highly

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30V/120-58-5-27/32

# Measurement of Inhomogeneous Permanent Magnetic Fields

inhomogeneous magnetic fields around the pole-pieces of these magnets was essentially an alternating current Wheatstone bridge, having impedances  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$  in that order, clockwise around the bridge. The AC input from a signal generator was applied across the junctions  $R_1/R_2$  and  $R_3/R_4$ . Impedances  $R_1$  and  $R_2$  were kept fixed. The impedance  $R_4$  was that of a taut molybdenum wire 0.05 mm in diameter and of a length somewhat in excess of the thickness (30 mm) of the horseshoe magnet, so that the latter could be located with its pole-pieces either side of the wire without fouling the terminals. The impedance  $R_4$  of the molybdenum wire was then related to the magnetic field in which it found itself. The bridge was balanced, by adjusting  $R_3$ , for each of a number of positions of each permanent magnet in relation to the molybdenum wire; the record of  $R_3$  for the various positions gave the variation of  $R_4$  and

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SOV/120-58-5-27/32

### Measurement of Inhomogeneous Permanent Magnetic Fields

hence of the magnetic field. For each magnet the field was determined over two planes (OX, OY) intersecting orthogonally at the centre of the gap, the OY plane including the axes of the cylinder defining the inner and outer 'sides' of the horseshoe. For all values of  $2\alpha$  the field over OY was found to decrease monotonically and symmetrically away from the centre of the gap; for  $2\alpha = 0^\circ, 30^\circ, 40^\circ$  the field over OX also decreased away from the centre, but asymmetrically; for  $2\alpha = 50^\circ$  the field over OX had asymmetric peaks either side of the gap. The text contains 5 figures and 5 references, 4 of which are Soviet and 1 English.

ASSOCIATION: Leningradskiy korablestroitel'nyy institut (Leningrad Shipbuilding Institute)

SUBMITTED: November 18, 1957.

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24(1), 24(6)

SOV/46-5-3-4/32

AUTHORS: Vinogradov, K.N. and Ul'yanov, G.K.

TITLE: Measurement of the Velocity and Attenuation of Ultrasonic Surface Waves in Solids (Izmereniye skorosti i zatukhaniya ul'trazvukovykh poverkhnostnykh voln v tverdykh materialakh)

PERIODICAL: Akusticheskiy zhurnal, 1959, Vol 5, Nr 3, pp 290-293 (USSR)

ABSTRACT: The paper was presented at the IV-th All-Union Conference on Acoustics in 1958. The authors used three methods to measure the ultrasonic surface-wave velocity. The pulse method was used to measure the velocity in dielectrics (optical glass and fused quartz). Wedge-shaped transducers with a variable angle were used to obtain approximate values of the surface-wave velocity. The standing-wave method was used to find precise values of the surface-wave velocity in metals. In the pulse method the authors used wedge-transducers as sources and receivers. Construction of a wedge-transducer is shown schematically in Fig 1, where 1 is a plastic wedge, 2 a sample and 3 a piezo-element. Mineral oil was used to achieve good acoustical contact between the transducers and the sample. The whole apparatus is shown schematically in Fig 2 where 1 is a pulse generator, 2 is an h.f. oscillator, 3 is the radiating transducer, 4 is the sample, 5 is the receiving transducer,

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SOV/46-5-3-4/32

## Measurement of the Velocity and Attenuation of Ultrasonic Surface Waves in Solids

6 is an h.f. amplifier with a detector and 7 is a cathode-ray oscillograph. The pulse method yielded the following results for the surface-wave velocity (accurate to within 2-3%): optical glass K-8 -  $3.15 \times 10^5$  cm/sec, fused quartz -  $3.40 \times 10^5$  cm/sec. The variable-angle wedge method is based on the relationship:

$$C_R = C_L \sin \theta_{cr},$$

where  $C_R$  is the surface wave velocity in the sample,  $C_L$  is the longitudinal-wave velocity in the wedge and  $\theta_{cr}$  is the critical wedge angle at which transformation of longitudinal into surface waves is most efficient. A variable-angle wedge transducer is shown in Fig 3, where 1 is a cylindrical sector made of polystyrene, 2 is a polystyrene slider and 3 is a piezo-element. The angle of incidence of the ultrasonic beam from the piezo-element,  $\theta$ , is varied by moving the piezo-element along the sector surface. The measurement technique is simple and it is possible to obtain rapidly fairly accurate ( $\sim 2\%$  error) estimates of the surface-wave velocity in various materials. More exact measurements of the surface-wave velocity in metals were made using the standing-wave method (Ref 1). The surface wave was excited by means of a wedge transducer. A contactless magneto-acoustic

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SOV/46-5-3-4/32

Measurement of the Velocity and Attenuation of Ultrasonic Surface Waves in Solids

transducer, which could be moved along the sample surface by means of a micrometer, was used as a receiver. This magneto-acoustic transducer (Fig 4) consisted of a horse-shoe magnet 1, pole-pieces 2 and a coil 3. Eddy currents due to vibrations of the metal-sample surface induced e.m.f.s in the transducer coil; these e.m.f.s were of the same frequency as the ultrasound in the sample. Complete apparatus used in the standing-wave measurements is shown schematically in Fig 6. Using the standing-wave method at 2.5 Mc/s results ranging between  $2.76$  and  $2.99 \times 10^5$  cm/sec (accuracy  $\pm 0.2\%$ ) were obtained for the surface-wave velocity in aluminium A-1 Armco iron, steel 3, duralumin D-1, magnesium alloy MA-3 (Table 1). Attenuation was measured using the pulse method (transducers were X-cut quartz wedges). One of the transducers was kept fixed and the other was moved along the surface. Attenuation was deduced from the relative change in the received-signal amplitude with increase of distance along the sample. Measurements were made at 2.5, 5.0 and 8.0 Mc/s. The results at 2.5 Mc/s were estimates rather than precise values because of weak attenuation at this frequency and consequent considerable errors in measurement of small changes in the signal amplitude. Table 2 shows that the attenuations of surface and volume

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SOV/46-5-3-4/32

Measurement of the Velocity and Attenuation of Ultrasonic Surface Waves in Solids

waves in steel 3, duralumin D-1, magnesium alloy MA-3, fused quartz and optical glass K-8 are of the same order at 8.0 Mc/s (0.01-0.2 dB/cm). The surface-wave attenuation depends strongly on the surface finish, presence of the residual stresses or oxide films etc. For example oxidation of a magnesium alloy MA-3 sample increased absorption of 8.0 Mc/s surface waves from 0.08 to 0.25 dB/cm. There are 6 figures, 2 tables and 6 references, 3 of which are Soviet and 3 English.

ASSOCIATION: Leningradskiy korablestroitel'nyy institut (Leningrad Shipbuilding Institute)

SUBMITTED: July 16, 1958

Card 4/4

KRAYZMER, Leonid Pavlovich. Prinimali uchastiye: CHERVINSKIY, M.M.; OBO-  
RENKO, A.Ye., SHILEYKO, R.I.; ZAYEZDNYI, A.M., retsenzent; UL'YANOV,  
G.K., red.; SOBOLEVA, Ye.M., tekhn. red.

[Discrete information storage devices] Ustroistva khraneniia diskret-  
noi informatsii. Moskva, Gos.energ.izd-vo, 1961. 359 p. (MIRA 14:12)  
(Magnetic memory (Calculating machines))  
(Pulse techniques (Electronics))

ACC NR: AR7002227

SOURCE CODE: UR/0275/66/000/010/V022/V022

AUTHOR: Ul'yanov, G. K.

TITLE: Ultrasonic solid delay lines on surface waves

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 10V143

REF SOURCE: Tr. Leningr. in-t aviats. priborostr., vyp. 45, 1965, 94-102

TOPIC TAGS: <sup>circuit</sup> ~~solid~~ delay line, ~~delay line~~, waveguide, ultrasonic radiation, acoustic wave, <sup>ultrasonic equipment</sup>

ABSTRACT: The use of surface waves makes it possible to develop an ultrasonic delay line of relatively small dimensions and to regulate the delay time smoothly, picking up the signal from any section of the acoustic line. Several types of delay lines on surface waves are described. In cylindrical-type delay lines the acoustic line is made in the form of a continuous or hollow cylinder with a tape type thread on its side surface. The exterior surface of the turns of the tape is a wave conductor. Emission and reception of ultrasonic surface waves are performed by tapered converters. A model of a cylindrical delay line with a smooth delay control to 10  $\mu$ sec at a carrier frequency of one cps has been developed. In spiral

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UDC: 621.374.55-8

ACC NR: AR7002227

delay lines, the acoustic line has the form of an Archimedes spiral. This design is of smaller dimensions, but it is more complicated to build than the cylindrical delay line. A description is also given of the design of a flat spiral delay line in which the tape, being the waveguide forms a single whole with the flat carrier plate, and is made by cutting grooves in the plate. The edges of the plate are rounded to insure smooth wave transmission from one flat sector of the tape to the other, which extends in the opposite direction. Considerations are presented relating to the selection of material and the shape of the delay lines; the design of piezoelectric and magnetoacoustic converters is described. A bibliography has 7 references is included. [Translation of abstract] [GC]

SUB CODE: 20, 09/

Card 2/2

ACC NR: AR7002225

SOURCE CODE: UR/0275/66/000/010/V018/V018

AUTHOR: Ul'yanov, G. K.

TITLE: Use of noncontact magnetoacoustic converters in ultrasonic flaw detection

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 10V119

REF SOURCE: Tr. Leningr. in-t aviats. priborostr., vyp. 45, 1965, 27-32

TOPIC TAGS: flaw detection, ultrasonic inspection, ultrasonic flaw detector, ultrasonic wave propagation, ultrasonic vibration

ABSTRACT: The use of standard piezofeeler gages for ultrasonic control is limited because of the impossibility of finding defects at small depth and because of the need for acoustic contact. The magnetoacoustic feeler gage works on the principle of excitation of eddy currents in the surface layer of the product being tested with the help of an electromagnet and by the interaction of these currents with the magnet's scatter field. Interaction produces electrodynamic forces which alternately cause expansion and compression of the medium. The process is based on the interaction of ultrasonic vibrations with a constant magnetic field and involves the use of a

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UDC: 620.179.16

ACC NR: AR7002225

similar gage. Designs of magnetoacoustic converters were tested at 2.5 Mc. When irradiation is penetrating through a rectangular rod, the presence of a flaw near the receiver causes the amplitude of the signal picked up to drop sharply in the area of the acoustic shade; the resolving power was found to be higher than that with a quartz receiver. Tests were likewise conducted on surface waves excited by wedge-type converter. With the magnetoacoustic receiver placed above a slot 0.5 mm deep, which was perpendicular to the direction of propagation of ultrasonic waves, the amplitude of the received signal increased sharply. With the use of a magnetoacoustic converter, the signal level is about 2 orders of magnitude lower than that with piezoquartz gages. A slight change in the circuits of industrial flaw detectors, will make possible the use of magnetoacoustic converters in addition to piezofeeler gages. [Translation of abstract] [GC]

SUB CODE: 20/

Card 2/2



ACC NR: AR7000900 SOURCE CODE: UR/0058/66/000/009/H061/H061

AUTHOR: Ul'yanov, G. K

TITLE: Quartz ultrasonic delay lines on surface waves

SOURCE: Ref. zh. Fizika, Abs. 9Zh443

REF SOURCE: Tr. Leningr. in-t aviats. priborostr. vyp. 45, 1965, 94-102

TOPIC TAGS: quartz, ultrasonic, ultrasonic delay line, circuit delay line, acoustic line

ABSTRACT: Various types of ultrasonic delay lines on surface waves are described. Parameters of simulated delay lines made on an acoustic line of fused quartz are presented. [Translation of abstract] [KP]

SUB CODE: 20/

Card 1/1

UL'YANOV, I.

DOBROVITSKIY, L.

and

UL'YANOV, I.

"An Instrument for Testing Multiconductor Cables,"  
pp 33-36, ill

Abst: A description is given of a testing apparatus for multiconductor cables IK-5x2 which has been manufactured by industry. With the device it is possible to check the condition and measure the value of resistance of conductors of cables TTVK-5x2, VSK-v/ch-5x2, and RPSH-10x1.5, and to check the resistance value of insulators between the conductors of unshielded cables, etc. With the aid of this instrument it is possible to measure resistance up to 3,00 ohms and insulation resistance up to 2 megohms. One battery, the BAS-60, is used for all types of measurements.

SOURCE: Voennoy Svyazist (Military Communicator), 1956, X, No 10

Sum 1854

UL'YANOV, I.A., inzh.; SOLDATENKOV, A.P., inzh.; DMITRIYEV, V.K.,  
inzh.; MASKIN, M.G., inzh.; POZIGUN, L.V., inzh.;  
DUKTOVSKAYA, O.A., inzh.; CHEKUNOV, I.N., inzh.; LIOKUMOVICH,  
Ye.F., inzh.; KAPITONOVA, Z.I., inzh.; LEVITSKIY, Ya.B., otv.  
red.; ROMANOVA, L.A., red. izd-va; OVSEYENKO, V.G., tekhn.red.

[Coals of the U.S.S.R.] Ugli SSSR; spravochnik. Moskva, Gos  
gortekhnizdat, 1962. 318 p. (MIRA 15:11)

(Coal)

UL'YANOV: I.A.

GRACHEV, V.H.; KLEPTSOV, Ya.S.; UL'YANOV, I.A.; LUDIN, G.I.

Mastering the production of a serum against Aujeszky's disease  
at the biofactory. Trudy Gos.nauch.-kont.inst.vet.prep. 4:156-  
160 '53. (MLRA 7:10)

1. Tobol'skaya biofabrika.

(Pseudorabies--Preventive inoculation) (Vaccines)

UL'YANOV, I.A.; ISTOMIN, L.I.; NOVIKOV, D.T.; SOLDATENKOV, A.P.

Introduction of electronic computers into coal supply planning.  
Ugol' 39 no.11:45-48 N '64. (MIRA 18:2)

19

Refractory dolomite bricks. I. F. El'yamov. Russ.  
53,012, July 31, 1948. Plastic hydrated dolomite dough  
is mixed with 20-50% dead-burned magnesite, molded  
and dried at 110°.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND LETTER																										3RD AND 4TH LETTER																										5TH AND 6TH LETTER																									
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z																										A B C D E F G H I J K L M N O P Q R S T U V W X Y Z																										A B C D E F G H I J K L M N O P Q R S T U V W X Y Z																									
<p>Ulyanov, I. F. REFRACTORY DOLOMITE BRICK. U. S.  S. R. Pat. 3,312, July 31, 1968.—Plastic hydrated dolo-  mite dough is mixed with 20 to 30% dead-burned magnesite, molded and dried at 110°.</p>																																																																													

BELORUTSKIY, A.G., mayor; GRIGOR'YEV, A.Ya., podpolkovnik; MILLEROV, V.I.,  
mayor; UL'YANOV, I.P., gvardii polkovnik zapasa; KHRENNIKOV, A.A.,  
podpolkovnik; TSABINOV, S.M., podpolkovnik; KONINSKIY, V.A., obshchiy  
red.; RAYEVSKIY, L.A., red.; UMANSKIY, P.A., tekhn.red.

[Tashkent Red Banner and Order of the Red Star Military Academy  
named for V.I.Lenin; a brief historical account] Tashkentskoye  
krasnoznamennoye i ordena Krasnoy Zvezdy voyennoye uchilishche  
imeni V.I.Lenina. Tashkent, Gos.izd-vo Uzbekskoi SSR, 1958.  
280 p. (MIRA 12:3)

(Tashkent--Military education)



UL'YANOV, I.I.

How we are striving for increased labor productivity. Der. i lesokhim.prom.  
2 no.11:24-25 N '53. (MIRA 6:11)

1. Iushchil'shchik Povolzhskogo fanernogo zavoda. (Veneers and veneering)

UL'YANOV, Ivan Pavlovich; SHULEYKIN, P.A., red.; NAZAROVA, A.S., tekhn.  
red.

[Wages on a collective farm]Oplata truda v kolkhoze. Moskva,  
Izd-vo "Znanie," 1962. 42 p. (Narodnyi universitet kul'tury:  
Sel'skokhoziaistvennyi fakul'tet, no.9) (MIRA 15:9)  
(Collective farms--Income distribution)

UL'YANOV, Ivan Pavlovich; SHULEYKIN, P.A., red.; ATROSHCHENKO,  
L.I., tekhn. red.

[Vegetable factories] Fabriki ovoshchei. Moskva, Izd-vo  
"Znanie," 1963. 39 p. (Narodnyi universitet kul'tury:  
Sel'skokhoziaistvennyi fakul'tet, no.9) (MIRA 16:12)  
(Vegetable gardening)

AGRICULTURE INST. IM. I. V. UL'YANOV (LENIN)

Ivanova, O. A., Prof. "Problem of the Effectiveness of the Use of Homogenous and Heterogenous Pairing of Heavy Breeds of Horses", Agrobizd, 2, 1948.

Prof. Agriculture Inst. im. I. V. Ul'yanov (Lenin).

UL'YANOV, I. Ye.

"Investigation of the Hydraulics of Two-Stage Delivery Pumps and Methods for Improving the Pumps". Thesis for of Cand. Technical Sci. Sub. 14 Nov 49, Moscow Order of Lenin Aviation Inst imeni Sergo Ordzhonikidze.

Summary 82, 18 Dec 52, Dissertations Presented For Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

FD-1582

USSR/Engineering - Thermotechnics

UL'YANOV, I. Ye.

Card 1/1 : Pub. 41-3/18

Author : Ul'yanov, I. Ye., Moscow

Title : ~~On intra-duct breakdown in the atomization of fuel~~

Periodical : Izv. AN SSSR. Otd. tekhn. nauk 8, 23-28, Aug 1954

Abstract : Investigates intra-duct stage in atomization of liquid fuel ejected from a jet. Discusses theories on factors involved in the breakdown of a stream of fuel in fuel atomization, including cases of small, medium, and large pressure drops, in pneumatic and centrifugal nozzles. Graph; diagrams. Nine references.

Institution :

Submitted : July 7, 1954

**"APPROVED FOR RELEASE: 03/14/2001**

**CIA-RDP86-00513R001857920014-4**

**APPROVED FOR RELEASE: 03/14/2001**

**CIA-RDP86-00513R001857920014-4"**

UL'YANOV, K.A.

Composite broach. Mashinostroitel' no.9:25 S '60.  
(MIRA 13:9)

(Broaching machines)



BIBERMAN, L.M.; NORMAN, G.E.; UL'YANOV, K.N.

Calculation of photoionization absorption in atomic gases. Opt.  
i spektr. 10 no.5:565-569 My '61. (MIRA 14:8)  
(Photoelectricity)

MUSIN, A.K.; NOVICHKOV, D.N.; UL'YANOV, K.N.

Retardation of plasma in a magnetic diffuser. Radiotekh.  
i elektron. 7 no.12:2051-2061 D '62. (MIRA 15:11)  
(Plasma (Ionized gases))  
(Magnetic fields)

38931

8/057/62/032/007/006/013  
B104/B102

26.2540  
AUTHORS:

Biberman, L. M., Toropkin, Yu. N., and Ul'yanov, K. N.

TITLE:

Theory of stepwise ionization and recombination

PERIODICAL:

Zhurnal tekhnicheskoy fiziki, v. 32, no. 7, 1962, 827-834

TEXT: Considering radiative recombination by which a many-electron excited atom is formed, the probabilities for ionization of excited atoms by radiation and by electron impact are investigated, as well as the probabilities for the corresponding recombinations. The coefficient

$$\alpha^e = 1.04 \cdot 10^{-11} T^{-1/2} [\ln 1.78 u_e - e^2 E_e(u_e)]$$

for the spontaneous recombination of a hydrogen atom in the n-th state is obtained from the expression

$$\alpha_n^e = \frac{2^9 \pi^2 e^{10}}{6^4 m^4 h^3 k^3 (kT)^{1/2}} \frac{1}{n^3} e^{\frac{I_1}{kT}} E_1\left(\frac{I_1}{n^2 kT}\right)$$

derived by G. Elwert (Zs. f. Naturforsch., 7a, 432, 1952) by summation

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S/057/62/032/007/006/013  
B104/B102

Theory of stepwise ionization ...

over  $n$  and after exclusion of some low states.

$$E_i(x) = \int_x^{\infty} e^{-t}/t dt;$$

$I_1$  is the ionization energy from the ground state,  $u_1 = I_1/kT$ ;  $u_g = \nu_g/kT$ .

The stepwise ionization of atoms by electron impact is studied in Bethe-Born approximation. It is shown that the ionization of excited atoms plays the main part in a plasma which is nearly in equilibrium. The recombination by triple impact (ion + 2 electrons) is similarly stepwise. In deriving the appropriate ionization and recombination coefficients it is shown that the choice of the initial effective cross section has little effect on the result. There is 1 table.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Engineering Institute)

SUBMITTED: July 3, 1961

Card 2/2

ACCESSION NR: AP4038427

S/0294/64/002/002/0137/0141

AUTHOR: Ul'yanov, K. N.

TITLE: Recombination decay of a nonequilibrium nonisothermal plasma

SOURCE: Teplofizika vy\*sokikh temperatur, v. 2, no. 2, 1964, 137-141

TOPIC TAGS: plasma decay, plasma instability, inelastic scattering, electron gas, recombination phenomena

ABSTRACT: The method for calculating the nonequilibrium stationary state of a plasma, proposed by the author (with L. M. Biberman, Optika i spektroskopiya, v. 16, No. 3, 194, 1964) is applied to a decaying nonisothermal plasma. The exchange of energy between electrons is assumed to be so fast that their velocity distribution can be regarded as Maxwellian. Allowance is made for the decrease in the electron temperature. It is shown that the inelastic processes play a predominant role in the energy balance equation of the electron

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51"  
ACCESSION NR: AP4038427

gas. The contribution of different levels to the effective recombination coefficient is investigated and it is found that it is not always permissible to neglect the contribution of the higher levels. For the lower excited states of the atom, the reabsorption of the corresponding lines may lead to a considerable violation of the quasistationarity. The distribution of the atoms over the states of the discrete and continuous energy spectra during the decay is investigated. The condition for the quasistationarity of the excited states and the contribution of the excited states to the effective recombination coefficient is analyzed. Orig. art. has: 3 figures and 5 formulas.

ASSOCIATION: Vsesoyuznyy elektrotekhnicheskiy institut im. V. I. Lenina (All-Union Electrotechnical Institute)

SUBMITTED: 30Jan64

SUB CODE: ME

ENCL: 00

DATE ACQ: 09Jun64

NR REF SOV: 004

OTHER: .002

Card 2/2

heavy particles. The normalized equation for time rate of change of concentration of electrons and atoms in all states (A - lower states, B - states to be considered simultaneously with continuous spectra) is given

$$\frac{dN}{dt} = \sum_{i=1}^{\infty} \frac{dN_i}{dt}$$

$$\frac{dn_i}{dT_i} = \frac{\alpha_i \cdot \frac{1}{T_i} \cdot \frac{1}{n_i}}{E_i + \frac{1}{2} kT_i} \cdot \frac{dn_i}{dT_i} = \frac{\alpha_i \cdot \frac{1}{T_i} \cdot \frac{1}{n_i}}{E_i + \frac{1}{2} kT_i} \cdot \frac{dn_i}{dT_i}$$



$$\times \left[ 1 + \frac{1}{n_e} \left( \frac{dn_e}{dt} \right) + \sum_i \tau_i \frac{dn_i}{dt} - \sum_i \tau_i \frac{dn_i}{dt} - \sum_i \tau_i \frac{dn_i}{dt} - \sum_i \tau_i \frac{dn_i}{dt} \right]$$

Two limiting cases are considered: 2) electron temperature reduction without a substantial change in electron concentration, b) slow rate of change of  $T_e$  such that variations in excited atom concentration are small. In this case the decay of nonequilibrium state, optically transparent nitrogen plasma is then

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L 6978-65

ACCESSION NR: *At 6978-65*

TITLE: Stationary and moving

SOURCE: Teplofizika vysokikh temperatur, v. 2, no. 6, 1964, 642-651

where  $f$  is the distribution function,  $v$  the velocity,  $\nu_m$  the frequency of elastic collisions of electrons with the atoms of the  $m$ -th species,  $\nu$ , the frequency of

where  $\nu$  is the frequency of the collision between electrons and atoms

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L 21424-65  
ACCESSION NR: AP5001147

Figure 1

Page 3/3

ACCESSION NR: AP4020951

S/0051/64/016/003/0394/0401

AUTHOR: Biberman, L.M.; Ul'yanov, K.N.

TITLE: Effect of emission of radiation on deviation from thermodynamic equilibrium

SOURCE: Optika i spektroskopiya, v.16, no.3, 1964, 394-401

TOPIC TAGS: thermodynamic equilibrium, distribution in states, Boltzmann distribution, Boltzmann equation, Saha equation, gas equilibrium, plasma equilibrium, non-equilibrium energy distribution, reabsorption

ABSTRACT: In the state of thermodynamic equilibrium of a gas (or plasma) the distribution of atoms (ions) in energy states is described by the Boltzmann or Saha equations; the radiation field is also in equilibrium and is characterized by a certain temperature (which enters into the Boltzmann or Saha equation). When, however, radiation is emitted, i.e., escapes from the volume of the gas, the system departs from equilibrium and, naturally, the distribution in states may deviate from that characterized by the B. or S. equations. In the present paper the authors consider the effect of emission of radiation on the distribution in states in a system constituted by a gas of real atoms, taking into account the full ensemble of states of

Card 1/2

ACCESSION NR: AP4020951

the discrete and continuous spectrum. That is, there is investigated the influence of emission of line and continuous radiation on the applicability of the Boltzmann and Saha formulas. Initially there is analyzed the simplest case in which reabsorption is absent; then the case when reabsorption is significant. It is shown that under certain circumstances escape of radiation from the system may result in very appreciable deviations from the equilibrium distribution in states. Some numerical calculations for hydrogen plasma are presented, but the method should also be valid for plasmas of other types. The deduced formulas could also be extended, by the introduction of an additional term, to evaluation of departure from equilibrium as a result of escape of charged or excited particles. Orig.art.has: 21 formulas, 2 figures, and 3 tables.

ASSOCIATION: none

SUBMITTED: 10May63

DATE ACQ: 02Apr64

ENCL: 00

SUB CODE: PH

NR REF SOV: 006

OTHER: 009

Card 2/2

L 15658-66 EWT(1)/ETC(F)/EPF(n)-2/ENG(m)/T IJP(c) AT  
 ACC NR: AP6003202 SOURCE CODE: UR/0382/65/000/004/0045/0049

AUTHOR: Ul'yanov, K. N.

ORG: none

TITLE: Distribution of concentration in the crosssection of bounded non-equilibrium plasma 21.44.55

SOURCE: Magnitnaya gidrodinamika, no. 4, 1965, 45-49

TOPIC TAGS: thermodynamic equilibrium, MHD generator, plasma concentration

ABSTRACT: The distribution of electrons and normal and excited atoms in one dimension in a nonequilibrium plasma is studied. The effect of the diffusion of particles on the equilibrium is considered in addition to radiative processes. The set of equations for particle balance is simplified by recognizing that upper levels of atoms are in equilibrium with free electrons. Further simplification occurs since excited atom currents can be neglected in comparison with ground state atom and ion currents. The simplified differential equation is solved by quadratures and specific solutions are derived for two cases. One case is for a regime where collision

Card 1/2

UDC: 533.9



L 43147.66 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) AT/JD/JG  
 ACC NR: AP6021208 (N) SOURCE CODE: UR/0294/66/004/003/0314/0323

AUTHOR: Ul'yanov, K. N.

ORG: All-Union Electrotechnical Institute im. V. I. Lenin (Vsesoyuznyy elektrotekhnicheskiiy institut)

TITLE: Electron velocity distribution function in a nonequilibrium plasma

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 3, 1966, 314-323

TOPIC TAGS: electron collision, electron distribution, kinetic equation, cesium plasma, excited electron state

ABSTRACT: The symmetric part of the <sup>2</sup>electron distribution function is investigated for those situations where velocity distribution is governed by electron-electron and inelastic collisions. A method of solving the kinetic equation is presented and corrections to the equilibrium distribution function are calculated. The terms in the kinetic equation are analyzed both for ranges below and above excitation level, and a first approximation to the distribution function is derived. It is shown that significant deviation of the distribution function appears only near the resonance. These deviations were computed for a cesium plasma at 3000°K, where it was assumed that 6S→6P transitions are dominant. In addition, the method also permits evaluation of excitation and deexcitation coefficients. These have been computed to the accuracy of

UDC: 533.915.533.933.535.352

Card 1/2

L 43147-66

ACC NR: AP6021208

terms with quadratic exponents, showing that deexcitation coefficients are nearly equal to those in the equilibrium case for all practical purposes. A similar situation obtains for the recombination coefficients. The comparison between the method presented in this work and the quasiclassical method is made and the differences discussed. The author thanks G. A. Titova for making the calculations. Orig. art. has: 42 formulas.

SUB CODE: 20/

SUBM DATE: 25May65/

ORIG REF: 010/

OTH REF: 004

Card 2/2 MLP

ACC NR: AP6033948

in the ground state. The quasistationary analysis makes it possible to calculate the time variation of the electron density and temperature and the concentration of the atoms. By way of an example, the relaxation lengths of the electrons (and consequently their concentration and the conductivity) are calculated at the input into the channel of a nonequilibrium magnetohydrodynamic generator operating with a mixture of cesium vapor and helium. It is shown that the resultant relaxation length ( $\sim 4$  cm) does not strongly affect the operation of a real mhd generator, but can be important in the laboratory installations. Orig. art. has: 3 figures and 5 formulas.

SUB CODE: 20/ SUBM DATE: 22Mar65/ ORIG REF: 004/ OTH REF: 001

Card 2/2

L 00491-66 EPF(n)-2/EPA(w)-2/ET(1)/ENG(m) TJP(c) AT

ACCESSION NR: AP5020555

UR/0294/65/003/004/0536/0546  
533.915

AUTHOR: Ul'yanov, K. N.

TITLE: Derivation of a balance equation for a nonequilibrium plasma

SOURCE: Teplofizika vysokikh temperatur, v. 3, no. 4, 1965, 536-546

TOPIC TAGS: ionized plasma, thermodynamics, gas kinetics, electron energy

ABSTRACT: The article is a theoretical attempt at a mathematical formulation of the state of a plasma when thermodynamic equilibrium is not present. The required balance equations are obtained directly from the kinetic equations, taking into account deviation from thermodynamic equilibrium due to nonequilibrium conditions in the radiation field. The following equations are successively derived: a kinetic equation for electrons, a balance equation for free electrons, a balance equation for the energy of the electrons, and a kinetic equation for heavy particles. The balance equations for the particles and the energies obtained from the kinetic equations make it possible, with sufficient accuracy, to calculate

Card 1/2

L 00491-66

9

ACCESSION NR: AP5020555

the changes with time of the parameters of the plasma, if the function of the electron velocity distribution is known. Thus, the problem reduces to the simultaneous solution of the balance equations and the kinetic equation for the electrons, into which the concentrations of the atoms and the electrons enter as parameters. However, for solution of the balance equations, just as for solution of the kinetic equation, the dependence of the section on the energies of the initial and final states must be known. "The author expresses his thanks to F. B. Ulinich and A. N. Starostin for their valuable observations. Orig. art. has: 36 formulas and 2 figures

ASSOCIATION: Vsesoyuznyy elektrotekhnicheskiy institut im. V. I. Lenin  
(All-Union Electrotechnical Institute)

SUBMITTED: 05Mar65

44,55  
ENCL: 00

SUB CODE: ME, TD

NR REF SOV: 006

OTHER: 000

Card 2/2

UL'YANOV, L. (Ul'yanovsk).

The Middle Volga region. Za rul. 14 no.5:9 Ag. '56. (MIRA 10:1)  
(Volga Valley--Motorcycle racing)

UL'YANOV, L., mekhanik.

A new parachute stands the test. Mast. ugl. 6 no. 2:23 F '57.  
(MLRA 19:4)

1. Pod'yem shakhty imeni Stalina tresta Kadiyevugol'.  
(Parachutes--Testing)

DUPLAKKO, K.F. (Kiyev); BARMENBOYM, A.M. (Kiyev).

Leonid Dmitrievich Ul'ianov. Sov.sdrav. 12 no.6:53-55 M-D '53.

(MIRA 6:11)

(Ul'ianov, Leonid Dmitrievich, 1878- )



UL'YANOV, I.

BAKHVALOV, I., direktor; STEPANOV, V., zaveduyushchiy partkabinetom; ZYUZIN, S., frezerovshchik-rastrochnik; KSENOKRATOV, V., inzhener; KOZHEVNIKOVA, M., nachal'nik tokarno-otdelochnogo otdeleniya, laureat Stalinskoy premii; UL'YANOV, M., predsedatel' tsekhkoma sborochnogo tsekha; MAUKOV, A., brigadir komsomol'sko-molodezhnoy brigady; DUDKIN, I., dotsent, direktor; ZHUKOV, P., tokar'.

[In a progressive plant; accounts of workers and technical engineering workers of the Moscow Order of the Red Banner of Labor Second State Bearing Plant] Na peredovom zavode; rasskazy rabochikh i inzhenerno-tekhnicheskikh rabotnikov Moskovskogo ordena Trudovogo Krasnogo Znameni 2-go Gosudarstvennogo podshipnikovogo zavoda. [Moskva] Profizdat, 1952. 94 p. (MLBA 6:5)

1. Moskovskiy ordena Trudovogo Krasnogo Znameni vtoroy Gosudarstvennyy podshipnikovyy zavod. 2. Vecherniy mashinostroitel'nyy institut (for Dudkin). (Efficiency, Industrial)

UL'YANOV, M.

Rugged, courageous, and skillful in work. Grazhd. av. 12  
no. 4:20-21 Ap '55. (MLRA 8:9)  
(Osetskii, Sigismund Bronislavovich)

ROMANOVICH, I.S.; PHILIPKO, I.P.; UL'YANOV, M.G.

New data on gas reservoirs in the lower anhydrite horizon  
of the Shebelinka field. Neftegaz. geol. i geofiz. no.3:  
32-36 '65. (MIRA 18:7)

1. Khar'kovskaya promyslovo-geofizicheskaya ekspeditsiya.

UL'YANOV, M. I.

UL'YANOV, M. I.

Physiologic fluctuation of erythrocyte sedimentation rate. Soviet.  
med. No. 5, May 50. p. 33-4

1. Major, Medical Corps.

CHL 19, 5, Nov., 1950

1. UL'YANOV, M. I.
2. USSR (600)
4. Blood
7. Certain hematological shifts in neurosis; first communication. Klin. med.30, no. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

UL'YANOV, M. I. (SAMARKAND)

Sep 53

USSR/Medicine - Cortical Regulation  
of Blood Composition

"Problem of the Cortical Regulation of the Leukocytic  
Composition of Peripheral Blood," M. I. Ul'yanov  
(Samarkand)

Klin Med, Vol 31, No 9, pp 52-56

The role of the cortex of large hemispheres in re-  
gulating the leukocytic composition of peripheral  
blood has not yet been sufficiently investigated.  
Available clinical and experimental data point to

270T58

the existence of a relationship between conditioned  
reflexes and the composition of peripheral blood.  
Establishment of temporary connections affects the  
functioning of mechanisms which produce changes in  
the leukocytic composition of the blood.

270T58

UL'YANOV, M. I.

Acad Med Sci USSR. Inst of Normal and Pathological Physiology

UL'YANOV, M. I.- "Material on the effect of the higher portions of the central nervous system on the morphological composition of the peripheral blood." Acad Med Sci USSR. Inst of Normal and Pathological Physiology. Moscow, 1956.  
(Dissertation for the Degree of Candidate in Medical Sciences)

SO: Knizhnaya Letopis', No. 20, 1956

UL'JANOV, M.I.

EXCERPTA MEDICA Sec.2 Vol.9/12 Physiology, etc. Dec 56

5558. UL'JANOV M.I. \*Variations of the peripheral blood picture in sleep (Russian text) KLIN. MED. (Mosk.) 1955, 33/2 (84-85)  
In tests on 32 healthy persons it was found that the leucocyte count dropped to 9800-8000 during sleep while the erythrocyte count rose from 4.8 to 5.3 millions (average values). The thrombocyte count also rose. On the whole a certain tendency to normalization of the blood picture during sleep was observed.



USSR/Human and Animal Physiology - (Normal and Pathological).  
Blood. The Forming Elements of Blood.

T-4

Abs Jour : Ref Zhur - Biol., No 11, 1958, 50662

Hematocritic indicator and the average volume of each individual E increased slightly. The number of large form thrombocytes (T) rose, a phenomenon which was accompanied by a mild thrombocytosis, specific granularity diminished, while the dimensions of hyaloplasm increased. In 9 cases in which the number of L was increased (11-12 thousand per  $1 \text{ mm}^3$ ) and in 13 cases in which thrombocytopenia (90-100 thousand T in  $1 \text{ mm}^3$ ) existed and was caused by sleep, especially by deep sleep, the numbers of L and T were nearly normal. In 13 persons with restless and shallow sleep, hypoleukocytic displacement was not found to be present, while in 4 persons the number of leukocytes became even larger by 9-28 percent. Also observed were neutrophilia, as well as an increase of the nucleic index of the neutrophil displacement, which rose on the average from 0.06 to 0.09, and a decrease in the number of eosinophils.

Card 2/3

- 22 -

UL'YANOV, M.I. (Moskva)

Changes in the blood picture in hypothermia. Pat.fiziol. i eksp.  
terap. 3 no.1:73 Ja-F '59. (MIRA 12:2)

1. Iz patofiziologicheskoy laboratorii (nachal'nik P.V. Simonov)  
Glavnogo voyennogo gospihalya imeni N.N. Burdenko (nachal'nik  
N.M. Nevskiy).

(BLOOD)  
(HYPOTHERMIA)

UL'YANOV, M.I.; KOLUPAYEV, G.P.

Problem of changes in the blood picture in electronarcosis. Biul.  
eksp. biol. i med. 49 no. 5:51-54 My '60. (MIRA 13:12)

1. Iz patofiziologicheskoy laboratorii Glavnogo voyennogo  
gospitalaya imeni N.N. Burdenko, Moskva. Predstavlena  
deystvitel'nym chlenom AMN SSSR V.N. Chernigovskim.  
(ELECTRIC ANESTHESIA) (LEUKOCYTES)

27.1220

39559  
S/205/62/002/003/005/015  
1015/1215

AUTHOR: Ul'yanov, M. I.

TITLE: Impaired leukocyte reaction following X-irradiation

PERIODICAL: Radiobiologiya, v. 2, no. 3, 1962, 395-400

TEXT: The effect of irradiation on leukocyte reaction being controversial in medical literature, in an attempt to clarify this problem, 140 experiments were performed lasting 3-4 weeks, 89 before and 51 after a single whole body x-irradiation, with doses of 600r, 50r, and 3r. The animals were dogs weighing 9.5-17.3 kg. The leukocyte reaction both to non-conditioned, and to conditioned reflexes, before and after irradiation, was established. The reflex reactions of the hemopoietic organs and the blood picture were impaired not only following lethal doses of X-rays, but also after moderate and tolerable doses. There are 2 figures.

SUBMITTED: June 6, 1961

Card 1/1

UL'YANOV, M.I.

Changes in the unconditioned leukocytic reflex during the process  
of developing a conditioned reflex. Zhur. vys. nerv. deiat. 12 no.4:  
664-669 J1-Ag '62. (MIRA 17:11)

1. Institute of Psychiatry, U.S.S.R. Academy of Medical Sciences,  
Moscow.

UL'YANOV, M.I.

Neural regulation of the blood system. Fizio. zhur. 48  
no.8:976-982 Agt62. (MIRA 16:6)

1. From the Institute of Psychiatry, U.S.S.R. Academy of  
Medical Sciences, Moscow.  
(REFLEXES) (BLOOD VESSELS)

40623

S/219/62/053/005/003/004  
1015/1215

27.12.20

AUTHOR: Ul'yanov, M. I.

TITLE: Effect of X-ray irradiation on the non-conditioned and conditioned reflex reactions of leucocytes

PERIODICAL: Byulleten' eksperimental'noy biologii i meditsiny v. 53, no. 5, 1962, 63-68

TEXT: There is much controversy about the leucocyte reactions in irradiated animals. Chronic experiments were carried out on 6 dogs. 1016 blood examinations were performed in 140 experiments (89 before and 51 after whole-body X-ray irradiation). The irradiation doses were: 600 r at 9.5 r/min, 50 r at 2 r/min, and 3 r at 0.1 r/min. The conditioned reflex leucocyte reaction was attained by a cutaneous electrical stimulus. The irradiation was performed after obtaining the characteristics of non-conditioned and conditioned reflex reactions of leucocytes. Clinical observations were continued after irradiation. The leucocyte reactions were studied for a long time, beginning with the first hours after irradiation. Stimulation of irradiated dogs brought about leukopenia after a dose of 600 r. After doses of 50r functional reflex disorders preceded morphological changes while after a dose of 3 r no morphological changes appeared although reflex malfunction was noticed. The sensitivity of functional tests reveals radiation injuries in the blood not detectable morphologically. There are 2 figures and 1 table.

Card 1/2

Effect of X-ray irradiation on the non-conditioned and...

S/219/62/053/005/003/004  
I015/I215

ASSOCIATION: Institut psikiatrii (dir. – dotsent N. M. Zharikov) AMN SSSR (Institute of Psychiatry  
[headed by Docent N. M. Zharikov], AMS USSR) Moscow

PRESENTED: by Academician V. N. Chernigovskiy

SUBMITTED: June 9, 1961

Card 2/2



UL'YANOV, M.I.; SAKHAROV, B.V.

Change in the pain-induced leucocytic reaction in radiation  
and combined radiation injuries. Med.rad. 8 no.2:42-46 F'63  
(MIRA 16:11)

1. Iz kliniko-radiologicheskogo otdeleniya (sav.-dotsent  
V.A.Polyakov) Tsentral'nogo instituta travmatologii i orto-  
pedii Ministerstva zdravookhraneniya SSSR.

✱

UL'YANOV, M.I.; PASHCHENKOV, S.Z.

Changes in the bone marrow and peripheral blood in schizo-  
phrenia. Sovet. med. 27 no.6:124-129 Je'63 (MIRA 17:2)

1. Iz Instituta psikhiatrii (direktor - deystvitel'nyy chlen  
AMN SSSR prof. A.V. Snezhnevskiy) AMN SSSR.

UL'YANOV, M. YU., CAND BIO SCI, "TEMPORARY CONNECTIONS UNDER DIRECT STIMULATION OF THE BRAIN BY AN ELECTRIC CURRENT. GOR'KIY, 1960. (LENINGRAD ORDER OF LENIN STATE UNIV IM A. A. ZHDANOV). (KL, 2-61, 205).

-98-

27.4000 ,

8/194/62/000/007/083/160  
D295/D308

AUTHORS: Ul'yanov, M.Yu. and Kobayakov, N.M.

TITLE: Electronic programming device for automating experiments on development of temporary links

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1962, abstract 7-5-28 zh (Zh. vyssh. nerv. deyat-sti, v. 11, no. 6, 1961, 1134 - 1136) /c

TEXT: The present device differs from the known ones for its simplicity and general applicability and is suitable for working with any animals. The device is intended for connecting and disconnecting the recorder of response reactions, the stimulator, the marker of the duration of the stimulating action etc. Three channels are switched one after the other, the intervals between the instants of switching of the channels and the duration of operation of each channel being controlled. The block diagram of the device is given. Tuning is accomplished by means of MH-5 (MN-5) neon indicators situated on the front panel. 4 references. [Abstracter's note: Complete translation.]  
Card 1/1

ACCESSION NR: AP4002550

S/0247/63/013/006/1108/1110

AUTHOR: Smetankin, G. N.

TITLE: Third Volga Area Conference of physiologists, biochemists, and pharmacologists

SOURCE: Zhurnal vysshey nervnoy deyatel'nosti, v. 13, no. 6, 1963, 1108-1110

TOPIC TAGS: bionics, closed cybernetic system, neuron modeling, pharmacological stimulant, regeneration process, dibazol, thyroidine, pentoxyl, neuron, cybernetics, central nervous system, biological modeling

ABSTRACT: The Third Volga-Area Conference of physiologists, biochemists, and pharmacologists was held in Gorky in June 1963. One hundred and thirty papers were presented. Experimental results and clinical data were reported on various problems in the physiology, biochemistry, and pharmacology of the central nervous system. Problems concerning the cardiovascular system, respiration, endocrine system, and the digestive system were also discussed. A. N. Malakhov and M. Yu. Ul'yanov

Card 1/2

ACCESSION NR: AP4002550

reported on studies being conducted in the field of bionics and gave an analysis of the methods used in the investigations. V. A. Ganzen and R. M. Granovskaya reported on a radioelectronic device which makes possible the mathematical simulation of neuron properties, using the neuron as a functional unit, and of functions characteristic of interacting neurons. N. P. Sinitsyn reported on the stimulating action of vitamins B<sub>1</sub> and B<sub>12</sub>, and of dibazol, thyroidine, pentoxyl, and ATP on the regenerative processes in the myocardium.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 07Jan64

ENCL: 00

SUB CODE: AM

NO REF SOV: 000

OTHER: 000

Card 2/2

L 22704-66 EWT(1) SCTB DD/GS/JXT(RML)

ACC NR: AT6009452

SOURCE CODE: UR/C000/65/000/000/0302/0305

AUTHOR: Malakhov, A. N.; Romanov, I. V.; Smirnov, Yu. V.; Ul'yanov, M. Yu.

ORG: none

53

B+1

TITLE: Biological indication of a UHF electromagnetic field

SOURCE: AN SSSR. Nauchnyy sovet po kompleksnoy probleme Kibernetika. Bionika (Bionics). Moscow, Izd-vo Nauka, 1965, 302-305

TOPIC TAGS: medical experiment, bionics, UHF, electromagnetic field

ABSTRACT: The effects of an SHF electromagnetic field on viability and conditioned reflex activity were investigated in a series of experiments on plerocerooids and white mice. In the first experimental series, 5 groups of plerocerooids were irradiated with UHF and SHF waves (7.6 m to 13.7 cm) for periods of 10 to 60 min to determine survival rates. Following irradiation each group of plerocerooids was placed in a physiological solution and kept at an 18° temperature. Death was determined by absence of reaction to needle pricks and to heating, and also by body tone condition. Findings show that the survival rate for

Card 1/2

L 22704-66

ACC NR: AT6009452

experimental groups is 4.5 to 5.62 days compared to 7.6 days for the nonirradiated control group. With increase of irradiation period at the same frequency, the survival rate decreases. In another series, conditioned reflex activity in a UHF field was studied in 5 adult male white mice of the same line and age. Mice were conditioned in a plastic chamber (20 x 10 x 7 cm) divided in half by a partition with an opening and push buttons; the electric signal systems were under the floor. Intensity of irradiation was of the order of 20 mwt/cm. Experiments were staged daily using different sequences of UHF stimuli. The development of conditioned reflexes in response to UHF electromagnetic stimuli was difficult and slow and the effects were temporary. Orig. art. has: 2 tables. [06]

SUB CODE: 06/ SUBM DATE: 26Oct65/ ORIG REF: 003/ ATD PRESS: 4229

Card

2/2 BK



UL'YANOV, N.

How economic and financial efficiency is achieved. Mor. flot 15  
no.213-14 F '65. (MIRA 18:4)

1. Pervyy pomoshchnik kapitana teplokhoda "Kimovsk".

UL'YANOV, N.A., doktor tekhn. nauk; TARASOV, V.N., inzh.

Effect of the tire tread design on tractive properties of self-propelled earthmoving machines. Stroil. i dor. mash. 10 no.10:2-4 0 '65. (MIRA 18:10)

UL'YANOV, N.A., doktor tekhn. nauk; AL'GIN, N.P., inzh.; BORISENKOV, V.A., inzh.

The D-538 bucket loader. Stroi. i dor. mash. 10 no.10:15-17 0 '65.  
(MIRA 18:10)

UL'YANOV, N.A., kandidat tekhnicheskikh nauk.

Determining the parameters of rollers with pneumatic tires.  
Mekh.stroi. 11 no.10:22-28 0 '54. (MLRA 7:11)  
(Road machinery)

UL'YANOV, N.A., kandidat tekhnicheskikh nauk.

The use of tire-equipped rollers for packing fillings. Gidr.  
stroi. 23 no.8:11-14 '54. (MIRA 8:1)  
(Rollers (Earthwork))

UL'YANOV, N.S.

Urgent tasks for the mining and chemical industry. Khim.prom.no.6:  
321-324 8 '55. (MIRA 9:1)

1. Nachal'nik Glavnogo upravleniya gornokhimicheskoy promyshlennosti.  
(Mineral industries)

**"APPROVED FOR RELEASE: 03/14/2001**

**CIA-RDP86-00513R001857920014-4**

**APPROVED FOR RELEASE: 03/14/2001**

**CIA-RDP86-00513R001857920014-4"**

**"APPROVED FOR RELEASE: 03/14/2001**

**CIA-RDP86-00513R001857920014-4**

**APPROVED FOR RELEASE: 03/14/2001**

**CIA-RDP86-00513R001857920014-4"**



UL'YANOV, Nikolay Aleksandrovich; UGORETS, I.Z., redaktor; KOGAN, P.L.,  
tekhnicheskii redaktor

[The operation of pneumatic tire rollers] Eksploatatsiia katkov na  
pnevmaticheskikh shinakh. Moskva, Nauchno-tekhn. izd-vo avtotransp.  
lit-ry, 1956. 77 p. (MLRA 9:?)  
(Rollers (Earthwork))

UL'YANOV, N. A., kandidat tekhnicheskikh nauk.

Determining the packing capacity of pneumatic tires on rollers.  
Avt. dor. 19 no.7:14-16 J1 '56. (MIRA 9:10)

(Rollers (Earthwork))

UL'YANOV, N.S.

BELASH, F.N.; UL'YANOV, N.S.

New methods for improving the technology of apatite production.  
(MLRA 10:4)  
Khim. prom. no.1:13-15 Ja-F '57.  
(Apatite)

UL'YANOV, N.A., dots., kand. tekhn. nauk

Effect of the speed of pneumatic-tired rollers on soil stabilization. Trudy Sib. avt.-dor. inst. no. 6: 119-127 '57.  
(MIRA 12:2)

(Road rollers)

UL'YANOV, N.A., dots., kand. tekhn. nauk

Selecting tire parameters for road rollers. Trudy Sib. avt.-dor.  
inst. no. 6:129-134 '57. (MIRA 12:2)  
(Road rollers)

03/14/2001

CIA-RDP86-00513R001857920014-

64 - 1

UL'YANOV, N.S.

AUTHOR:

Ul'yanov, N. S.

TITLE:

III. Phosphate Raw Materials and Potash Fertilizers  
(III. Fosfatnoye syr'ye i kaliynnye udobreniya).

PERIODICAL:

Khimicheskaya Promyshlennost', 1957, Nr 7,  
pp. (430)46 - (432)48 (USSR)

ABSTRACT:

A short survey is given of the production of potash salts. In 1933 the first Potash Combine began work at Solikamsk. It was followed by the combines of Berezniki, Stebnik, and Kalush. In 1955 production amounted to 1845 thousand tons (converted to 41.6 %  $K_2O$ ). The work of mining is fully mechanized, bucket carriage elevators are automatized in the combine. The greatest achievement is the introduction of ore flotation in the test factory of the Berezniki combine. The flotation potash concentrate has high physical properties and a high potassium chloride content of 92-94 %. The flotation method makes it possible to do without steam, so that capital investments are reduced considerably. The fact that the combine is near a navigable canal and a harbor in the combine itself makes it possible to carry out transports

### III. Phosphate Raw Materials and Potash Fertilizers

64 - 7 - 9/12

on the waterway from Berezniki along the Kama, Volga, and the Volga-Don canal. A further development of the potash industry will be attained by the building of a combine on the basis of the kainite - langbeinite ores occurrences in the western part of the Ukraine. The second part of the paper gives a survey of phosphate raw material. Two occurrences, that of Khibiny (on Kola peninsula) and that of Kara-Tau are the most important. At Khibiny the "Apatite" combine is located, which works on the basis of apatite-nephelinite occurrence and which produces the world's best phosphate raw material: the flotation apatite-concentrate with 39.4%  $P_2O_5$ . The project for the enlargement of the factory has already been approved and worked out. It will mean an increase of production figures by some million tons. The "Kara-Tau" combine works on the basis of the phosphorites discovered in 1935 at 45 different stratified deposits. These phosphorites have a low  $P_2O_5$  content and a high content of carbonates. It was, however, possible to obtain a concentrate with 28-29 %

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$P_2O_5$  and 1 %  $MgO$ . At present the building of a flotation test plant is being completed. The combine is being extended. It is intended to exploit also the occurrences of Chulak-Tau and Ak-Say, 30 km from the combine. There are 2 figures.

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CARD 3/3

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Effect of air pressure in tires on the roadability of excavating  
and conveying machines. Stroitiel.dor.mashinostr. 2 no.9:15-18 S '57  
(MIRA 10:11)

(Excavating machinery--Tires) (Conveying machinery--Tires)  
(Soil mechanics)

*UL'YANOV, N.A.*

UL'YANOV, N.A., kand.tekhn.nauk, dots.

Investigating the pulling force of the running gear in the  
D-265 automatic grader. Stroi. i dor. mashinostr. } no.2:13-16  
F '57. (MIRA 11:2)

(Earthmoving machinery)



AUTHOR: Ul'yanov, N. S. 64-1-15/19

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ABSTRACT: In December, 1957, a meeting of the scientific council of the All-Union Scientific Research Institute for Halurgy took place in Berezniki under the participation of representatives of the administration for the chemical and mining-chemical industry MKhP, of the council for economics of Perm and Stanislav, of the potassium Kombinat, GIGKhS, of the State mining project and its branches Leningrad and L'vov, as well as of the representatives of the Belorussian Akademii Nauk SSSR. The main directions of the development of the potassium industry for the time 1959-1965 were discussed, as well as e.g. the problems of the mechanization of mining work, flotation methods, quality improvements of potassium chloride, output increase of the existing Kombinats, as well as the establishment of a new Kombinat and a series of other

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Conference on Problems of the Development of the Potassium  
Industry

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problems. Among other things also a four-item-plan for the production of potassium raw materials was determined as well as a six-item-plan for the reworking of the potassium raw materials.

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1. Chemical industry-USSR
2. Potassium-Production-Development

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Author : I. L.A. Kostandov, II. B.D. Mel'nik, III. N.S. Ul'yanov

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UL'YANOV, N.A., kand.tekhn.nauk; MIKHAYLOV, B.I.

Performance of the elastic driving wheel on hard-surface ground.  
Avt. prom. no.5:25-27 My '60. (MIRA 14:3)

1. Sibirskiy avtodorozhnyy institut.  
(Automobiles--Wheels--Testing)